

Aviation Education News

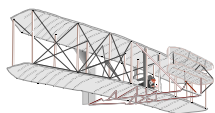


Distributed Quarterly to Promote Aviation Education and Awareness in Virginia

November 2002

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**Centennial of Flight
Commission
Website**

www.centennialofflight.gov

**How will your school, class,
or organization be
celebrating the
Centennial of Flight?**

Send us a note and
we'll include your ideas
in future newsletters.

Get Ready for the Centennial of Flight

Commemoration Act

In 1998 the United States Congress enacted legislation to "establish a commission to assist in the commemoration of the centennial of powered flight and the achievements of the Wright Brothers." The following is part of the wording of that act:

Congress finds that --

(1) December 17, 2003 is the 100th anniversary of the first successful manned, free, controlled, and sustained flight by a power-driven, heavier than air machine;

(2) the first flight by Orville and Wilbur Wright represents the fulfillment of the age-old dream of flying;

(3) the airplane has dramatically changed the course of transportation, commerce, communication, and warfare throughout the world;

(4) the achievement by the Wright brothers stands as a triumph of American ingenuity, inventiveness, and diligence in developing new technologies, and remains an inspiration for all Americans;

(5) it is appropriate to remember and renew the legacy of the Wright brothers at a time when the values of creativity and daring represented by the Wright brothers are critical to the future of the Nation; and

(6) as the Nation approaches the 100th anniversary of powered flight, it is appropriate to celebrate and commemorate the centennial year through local, national, and international observances and activities.



Inventing Flight for Schools

A multimedia curriculum for middle school grades has been developed and is available for the 2002-2003 school year. It guides students through the science and history behind the Wright Brothers and their invention of powered flight.

The curriculum kit includes videotapes, a teacher's guide, DVD resource disk, student worksheets, web site activities and links, and other educational resources. It is explicitly correlated to national education standards.

The kit is based on a teachers guide developed by Dr. Gordon Schimmel and Associates. Among those who contributed to the program are the Honorable John Glenn, U.S. Senator and Astronaut, Ret; Dr. Tom Crouch, Sr. Curator for Aeronautics at the Smithsonian; Dr. Colleen Sexton, Associate Professor, Dept. of Education, Ohio University; and Patty Wagstaff, a three-time U.S. National Aerobatics Champion and inductee to the Women in Aviation Hall of Fame, to name a few.

Originally developed for Ohio schools, the kits are available nationally through the Agency for Instructional Technology for \$295.00.

For more information visit:
<http://inventingflightschools.org>
<http://www.inventingflight.com>
<http://www.ait.net>

PRESIDENT'S NOTES

The NASA Langley Research Center's Office of Education (OEd) is working in collaboration with the Virginia Department of Aviation which is an excellent way to maintain two communication between federal and state aviation education concerns.

NASA Langley is anticipating providing a 1-week teacher NASA Explorer Academies Summer Workshop for 5th -8th grade (7/12-18/03). This program is open to public and private school teachers in the middle grades. An application is available at email new@nsta.org. The date that applications will be due is tentatively February 20, 2003. We are also conducting two 2-week pre-service NEW workshops (Pre-Service Teacher Institute) for teacher candidates from colleges and universities. For information on the Pre-Service Programs go to <http://edu.larc.nasa.gov/pstp>. The first session will be June 1-13, 2003 and the second session will be July 20-August 1, 2003. There will be a total of 25 teachers and 40 teacher candidates that will be participating, here at NASA Langley. There are 10 NASA Centers nationwide, so there will be at least 10 core pilot programs. They will provide 250 teachers nationwide an opportunity to participate in an all expenses paid 1-week workshop, with graduate credit available at in-state tuition.

Peter D. Thomas
Aerospace Education Project Manager (ViGYAN, Inc.)
Office of Education
NASA Langley Research Center



VASEF AVIATION EDUCATION NEWS is published quarterly in support of aviation education in the Commonwealth of Virginia by the Virginia Department of Aviation.

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VASEF PURPOSE

The Forum is a non-profit organization to promote and foster aviation and space education among public and private schools, colleges and universities, and community and civic groups, and to promote increased public understanding of aviation and space and their economic, social, and career values in our society and in the Commonwealth of Virginia.

2003 Aviation Art Contest Update

While details of the 2003 International Aviation Art Contest were included in the last edition of VASEF News (August 2002), the brochure and application form were not yet available.

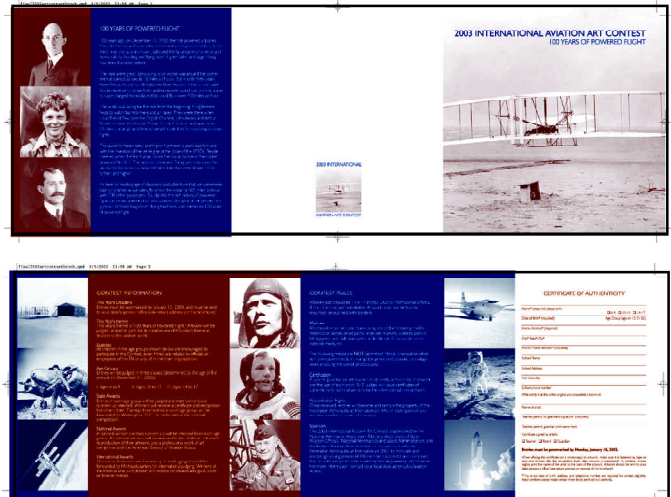
The brochures for the 2003 Contest should be mailed to schools shortly. For those who wish to submit their drawings prior to receiving one, please download the brochure from the Virginia Department of Aviation's website (www.doav.state.va.us) or simply complete the application form on this page, affix it to the back of the artwork and mail to the listed address.

The theme for 2003 is "100 Years of Powered Flight."

Please mail all Virginia entries to:

Virginia Department of Aviation
Attn: Betty Wilson
5702 Gulfstream Road
Richmond, Virginia 23250-2422

2003 International Aviation Art Contest Brochure



NIFA Meet Scheduled for November

The National Intercollegiate Flying Association (NIFA) Region X 2002 Safecon will take place at the Chesapeake Regional Airport from November 6-9, 2002. Colleges and universities invited to compete in the flying competition include Averett University, Virginia Tech, Lenoir Community College, Caldwell Community College, Guilford Technical Community College, Salem University, U.S. Naval Academy, University of Maryland, Liberty University and the host school, Hampton University.

For more information on the National Intercollegiate Flying Association (NIFA) visit www.nifa.ws.

For more information on Hampton University and its aviation programs contact Darryl Stubbs, Aviation Department, at dastubbs@earthlink.net or (757) 727-5418.

Teachers Grant Program Deadline Extended

The postmark deadline for the 2002/03 Virginia Department of Aviation Teachers Grant Program has been extended until December 13. Applicants selected to receive the grants will still be notified in mid-January.

Brochures and applications will be mailed to schools shortly. For those who wish to apply now, an application form can be found in the last edition of the VASEF News (August 2002) or may be downloaded from the Department of Aviation's web site, www.doav.state.va.us.

Teachers from all grade levels and subject areas are encouraged to apply. With the Centennial of Flight coming up, now is a perfect time to include aviation concepts in your lesson plans.

CERTIFICATE OF AUTHENTICITY

Name* (required) please print

☐ 6-9 ☐ 10-13 ☐ 14-17

Date of Birth* (required)

Age Group (age on 12-31-02)

Home Address* (required)

City* State* Zip*

Home Phone Number* (required)

School Name

School Address

City State Zip

School phone number

I/We certify that this is the original and unassisted artwork of:

Name of artist

Teacher, parent, or guardian's signature* (required)

Teacher, parent, guardian print name here

Certificate signed by artist's:

☐ Teacher ☐ Parent ☐ Guardian

Entries must be postmarked by Monday, January 10, 2003.

When affixing this certificate (or a photocopy) to artwork, make sure it is fastened by tape or glue stick (please affix the registration form after artwork is completed). In addition, please legibly print the name of the artist to the back of the artwork. Artwork should be sent to your state sponsor's office (see return address on reverse of this brochure).

*The artist's date of birth, address, and telephone number are required for contest eligibility. Adult certifiers please make certain these fields are filled out correctly.

NASA Aviation Education Programs for 2002/03

The NASA SCI Files - Season 2002-2003

The NASA SCI Files is a series of FREE Emmy-award-winning instructional programs consisting of broadcast, print, and online elements. Emphasizing standards-based instruction, Problem-Based Learning, and scientific inquiry, the series seeks to motivate students in grades 3-5 to become critical thinkers and active problem solvers. Each program supports the national mathematics, science, and technology standards and has three components that include (1) a 60-minute television broadcast, which can be viewed live or taped for later use; (2) a companion educator's guide; and (3) an interactive web site featuring a Problem-Based Learning activity that enables students to further explore topics presented in the broadcast. The web site also contains a wealth of instructional resources.

Upcoming programs include:

The Case of the Shaky Quake (Starts airing Wed., Nov. 20, 2002)
 The Case of the "Wright" Invention (Starts airing Wed., Dec. 11, 2002)
 The Case of the Barking Dogs (Starts airing Wed., Jan. 22, 2003)
 The Case of the Inhabitable Habitat (Starts airing Wed., Feb. 19, 2003)
 The Case of the Biological Biosphere (Starts airing Wed., Mar. 19, 2003)
 The Case of the Phenomenal Weather (Starts airing Wed. April 9, 2003)
 The Case of the Galactic Vacation (Starts airing Wed. May 14, 2003)

To View the Episodes:

The television programs can be viewed at no cost on PBS-member television stations and via satellite broadcast. Your local ERC can also provide you with a video copy. Episodes can be viewed free on the Internet via NASA's Learning Technologies Channel. If you can't access the free distribution mechanisms listed above, you may purchase videos from NASA's Central Operation of Resources for Educators (CORE) at <http://core.nasa.gov/>.

For more information visit <http://scifiles.larc.nasa.gov>.

NASA CONNECT - 2002-2003

NASA CONNECT is a research-based annual series of free integrated mathematics, science, and technology instructional distance learning programs for students in grades 6-8. Each program has three components: (1) a 30-minute television broadcast, which can be viewed live or taped for later use; (2) an educator guide including a hands-on activity; and (3) an interactive web activity which provides educators an opportunity to integrate technology in the classroom setting. These three components — television broadcast, web activity, and educator guide — are designed as an integrated instructional package.

Upcoming shows include:

Data Analysis and Measurement: Having a Solar Blast! (Starts airing Nov. 21)
 Measurement, Ratios, and Graphing: Who Added the "Micro" to Gravity? (Starts airing Dec. 12)
 Functions and Statistics: Dressed for Space (Starts airing Jan. 23)
 Special Edition: World Space Congress (Starts airing Feb. 20)
 Measurement, Ratios, and Graphing: Safety First (Starts airing Mar. 20)
 Data Analysis and Measurement: Dancing in the Night Sky (Starts airing April 10)
 Festival of Flight Special: Opening Space for Next Generation Explorers (Starts airing May 15)

For more information visit the NASA CONNECT Web site at <http://connect.larc.nasa.gov>.

National Air and Space Museum Calendar

Every Wednesday at noon, a Museum staff member talks to the public about the history, collection, or personalities related to a specific artifact or exhibition in the Museum. Talks typically last 10-15 minutes and begin at the Museum "Great Seal", in the Milestones of Flight gallery on the first floor.

Curator's Choice Lectures:

Nov. 6, 2002

Around the World with the Bud Light Spirit of Freedom: Steve Fossett's Balloon Gondola
 Tom Crouch

Nov. 13, 2002

Prelude to the International Space Station: The Shuttle-Mir Missions
 Roger Launius

Nov. 20, 2002

Apollo 11 Star Charts and Checklists
 Bob Craddock

Nov. 27, 2002

The World's Favorite Airliner: The Douglas DC-3
 Bob van der Linden

Dec. 4, 2002

"Flopnik": The Vanguard TV-3 Disaster
 Michael Neufeld

Dec. 11, 2002

Last Spacesuit on the Moon: Gene Cernan's Apollo 17 Suit
 Amanda Young

Dec. 18, 2002

Robert Goddard's May 1926 Rocket
 Frank Winter

Exhibitions

Aerobatic Champions (thru Spring 2003)

Features Betty Skelton's Pitts S-1C "Little Stinker" and Leo Loudenslager's Laser 200, both flown in world championship aerobatic competition.

Lockheed Martin IMAX^a Theater

"Straight Up! Helicopters in Action"

Helicopters have long been a staple of action movies, but it's unusual to have these impressive machines play a starring role. This film features more than 30 helicopters. Visitors will fly along with skilled helicopter crews on a series of pulse-pounding adventures that demonstrate the many roles these powerful aircraft play in our daily lives. Actor Martin Sheen is the narrator.

For more information visit www.nasm.si.edu.

AEROSPACE EDUCATION TAKES FLIGHT WITH NASA'S "VIRTUAL SKIES"

NASA's "Virtual Skies" Web site transports students and teachers into the exciting world of aerospace research and air traffic management without leaving the classroom.

"Virtual Skies," a collaboration among aerospace and education experts from NASA's Ames Research Center, Moffett Field, California, is part of NASA's expanding commitment to education. The Web site introduces students to several aspects of the exciting world of aviation with a series of virtual field trips using air traffic management as the main theme. "Virtual Skies" contains numerous interactive elements to encourage students to explore the excitement and variety of aviation and aerospace research.

Geared for grades 9-12, "Virtual Skies" is aligned with national education standards in mathematics, science, geography and technology. The Web site also provides teachers with lesson plans and worksheets to allow easier incorporation of material into a regular high school curriculum.

"Virtual Skies" is divided into seven topic areas: weather, aviation research, airport design, air traffic management, navigation, communication and aeronautics. Each topic area contains four interactive elements designed to enhance student learning.

Professional educators designed "Virtual Skies" using familiar, proven educational practices. To help make the material relevant, "Virtual Skies" incorporates a "Career Radar" section in each module, providing job descriptions, as well as education and training requirements. Each career section offers a computerized "affinity check" that evaluates the match between students and careers.

Support and information for students don't stop with the modules. Throughout the school year, "Virtual Skies" will offer special events such as web chats, webcasts, online aerospace contests and collaborative projects for students to interact with NASA aerospace specialists.

"Virtual Skies" is available on the Internet at:
<http://virtualskies.arc.nasa.gov/>

NASA "LIVE"

Building on their proven track record as NASA's Center for Distance Learning, the LaRC Office of Education has designed a free videoconferencing program — NASA Live: Learning through Interactive Videoconferencing Experiences — to represent a new dimension in educational outreach. NASA Live is a series of free videoconferencing programs that (1) are designed to extend and strengthen NASA's commitment to educational excellence at the college/university level; (2) provide opportunities for learning, instructional enrichment, and professional development for students and faculty by engaging them in an interactive, virtual environment with NASA researchers; and (3) communicate NASA LaRC knowledge, foster collaboration, and the exchange of ideas.

This program links students and faculty to NASA in an interactive, virtual setting. Students and faculty across the nation will have the unique experience of visiting NASA experts via videoconferencing without the inconveniences and expenses associated with extended travel.

The Videoconference:

- 60-minute program session divided into two segments: a 45-minute presentation and a 15-minute Q & A segment;
- A facilitator who manages the overall session;
- A presenter (i.e., a NASA LaRC engineer, scientist, and/or technician).

Technology Requirements:

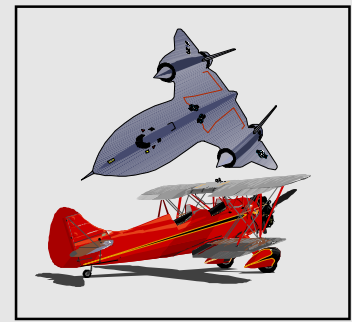
- ISDN Phone Lines
- Vtel/PicTel Type System
- Speed: 128-384 kbs

Connection Agreement:

Requester must provide their own videoconferencing system and pay all associated costs on their end.

How to Get Started:

Access the on-line presentation calendar at
<http://live.larc.nasa.gov>.



VIRGINIA AVIATION MUSEUM CALENDAR

November 2, 2002

Wright Brothers Forum

Join us as experts in the field of aviation history discuss the fascinating process that led to man's ability to fly. See full-size reproductions of the Wright 1899 kite, 1900, 1901 and 1902 gliders, and the 1903 *Flyer*.
9:30 a.m. - 5:00 p.m.

November 9, 2002

VAHS Hall of Fame Induction Ceremony

For more information or to make reservations please call (804) 222-8690.
5:30 p.m.

November 21, 2002

Guest Speakers Series

Hyman Schwartzberg of the Richmond National Battlefield Park and the Maggie L. Walker National Historic Site will discuss the uses of Military Ballooning. The French proposed using hot air balloons for military purposes as early as the late 1700s. Both the Union and Confederate armies used ballooning for observation of troop movements.

December 14, 2002

First Flight Celebration

Special hands-on activities and films honoring the first manned, powered, controlled flight made by the Wright Brothers on December 17, 1903. See flying reproductions of the Wright Brother's 1899 kite, 1900, 1901 and 1902 gliders, and the 1903 *Flyer*.

For further information on events and schedules, call (804) 236-3622.

Aviation Education Corner

Balloon Staging

Objective:

To demonstrate how rockets can achieve greater altitudes by using the technology of staging.

Description:

This demonstration simulates a multistage rocket launch by using two inflated balloons that slide along a fishing line by the thrust produced from escaping air.

Science Standards:

Physical Science - Position and motion of objects
Science and Technology - Abilities of technological design
Science and Technology - Understanding about science and technology

Science Process Skills:

Observing
Making Models
Defining Operationally

Management:

The activity described below can be done by students or used as a demonstration. Younger students may have difficulty in coordinating the assembly steps to achieve a successful launch. If you will use the activity in several successive classes, consider attaching the fishing line along one wall where there is not much traffic, so students will not walk into the line.

Background Information:

Traveling into outer space takes enormous amounts of energy. This activity is a simple demonstration of rocket staging that Johann Schmidlap first proposed in the 16th century. When a lower stage has exhausted its load of propellants, the entire stage drops away, making the upper stages more efficient in reaching higher altitudes. In the typical rocket, the stages are mounted one on top of the other. The lowest stage is the largest and heaviest. In the Space Shuttle, the stages attach side by side. The solid rocket boosters attach to the side of the external tank. Also attached to the external tank is the Shuttle orbiter. When exhausted the solid rocket boosters jettison. Later, the orbiter discards the external tank as well.

Procedure:

1. Thread the fishing line through the two straws. Stretch the fishing line snugly across a room and secure its ends. Make sure the line is just high enough for people to pass safely underneath.

2. Cut the coffee cup in half so that the lip of the cup forms a continuous ring.

3. Stretch the balloons by pre-inflating them. Inflate the first balloon about three-fourths full of air and squeeze its nozzle tight. Pull the nozzle through the ring. Twist the nozzle and hold it shut with a spring clothespin. Inflate the second balloon. While doing

so, make sure the front end of the second balloon extends through the ring a short distance. As the second balloon inflates, it will press against the nozzle of the first balloon and take over the clip's job of holding it shut. It may take a bit of practice to achieve this. Clip the nozzle of the second balloon shut also.

4. Take the balloons to one end of the fishing line and tape each balloon to a straw with masking tape. The balloons should point parallel to the fishing line.

5. Remove the clip from the first balloon and untwist the nozzle. Remove the clip from the nozzle of the second balloon as well, but continue holding it shut with your fingers.

6. If you wish, do a rocket countdown as you release the balloon you are holding. The escaping gas will propel both balloons along the fishing line. When the first balloon runs out of air, it will release the other balloon to continue the trip.

7. Distribute design sheets and ask students to design and describe their own multistage rocket.

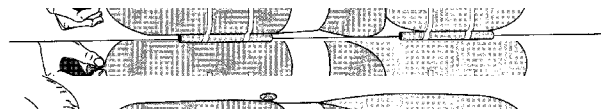
Assessment:

Collect and display students designs for multistage rockets. Ask each student to explain their rocket to the class.

Extensions:

Encourage the students to try other launch arrangements such as side-by-side balloons and three stages.

Can students fly a two-stage balloon without the fishing line as a guide? How might the balloons be modified to make this possible?



Materials and Tools:

- 2 Long party balloons
- Nylon monofilament fishing line (any weight)
- 2 Plastic straws (milkshake size)
- Styrofoam coffee cup
- Masking Tape
- Scissors
- 2 Spring Clothespins

from: *Rockets: A Teacher's Guide with Activities in Science, Mathematics, and Technology* (NASA)

Aviation & Space



Web Sites

Agency for Instructional Technology <http://www.ait.net>
Inventing Flight <http://www.inventingflight.com>
Inventing Flight (schools) <http://inventingflightschools.org>
NASA CONNECT <http://connect.larc.nasa.gov>
NASA LIVE <http://live.larc.nasa.gov>
NASA SCI Files <http://scifiles.larc.nasa.gov>
NASA Student Contest <http://avst.larc.nasa.gov/competition.html>
NASA Virtual Skies <http://virtualskies.arc.nasa.gov>

Design a Flying Car!

High School Student Competition for 2003

The NASA Langley Research Center, Aerospace Vehicle Systems Technology Office, invites high school classrooms and /or student teams to submit their ideas for a practical flying car. Such ideas may include one or more of the following submitted as a paper:

- The conceptual design of such a vehicle;
- A study of the ground systems needed to support transportation using the vehicle;
- A study of the propulsion system and fuel sources that may power the vehicle;
- Noise issues that may arise surrounding use of the vehicle;
- Emissions issues and other related environmental concerns;
- Cost analysis of vehicle manufacture and maintenance;
- Surveys of general populations to determine if a vehicle existed, who would use it — why, how, when, where, and at what cost;
- A literature review of global interest and work on personal air vehicles; and,
- Other ideas or problems that the students may think of on their own.

The competition encourages all levels of high school students to engage in the process of submitting an entry. Inter-classroom teaming is encouraged, as in inter-school teaming. For example, a local school district may want to sponsor a team that represents the district science classes. A state junior academy of science may want to sponsor a team from among their student members. Traditional science fair competitions could be modified to use the flying car concept as a category. Winning entries from the local science fairs could be improved and submitted to the national NASA sponsored competition.

Eligibility

The competition is open to any US high school or secondary school student or team.

Dates

The competition officially opens September 9, 2002 and will be completed by June 1, 2003. Letters of intent from schools that wish to submit an entry are required by January 30, 2003. Entries are due to NASA Langley AVSTO by April 1, 2003. Winners will be announced by May 1, 2003.

Awards

Winning entries will be awarded a small cash prize. The prize will be in the form of a check to the sponsoring institution. The sponsoring institution will then decide how to best use the check. NASA will determine the amount and number of cash awards based on the availability of funds.

Each winning team will be awarded a trophy and each member of the team will be given a certificate to commemorate their achievement.

Winning entry teams may be invited to visit a NASA research facility to participate in an education activity.

Winning vehicle designs may be chosen for reproduction as a model. The model would be awarded to the sponsoring institution.

Submission Guidelines

Entries may be submitted electronically or in hard copy format as no more than 25 typed pages, single spaced, no less than 10-point font, and organized appropriately into subsections.

Additional submission guidelines, criteria for the selection of winners and many other details may be found on the web site: <http://avst.larc.nasa.gov/competition.html>.

SCIENCE MUSEUM OF VIRGINIA CALENDAR

EXHIBITIONS

Titanic Science - thru Jan. 5, 2003.

SCIENCE DAYS PROGRAMS

Survival Science - April 12, 2003

Radical Robots - Nov. 9 and 16, Feb. 22, 2003

Space Exploration - Jan. 11 and 18, 2003

Weather Watchers - March 8 and 15, 2003

Call (804) 864-1431 to register your group.

MAX FILMS

Titanica - thru Dec. 31

Lost Worlds: Life in the Balance - thru Jan. 5

Jane Goodall's Wild Chimpanzees - Opens Jan. 6

Old Man and the Sea - Opens Jan. 6

MULTIMEDIA SHOWS

Hubble/Night Sky - Ongoing

Rocks in Space - thru Jan. 12

LIVESKY: Informal "live" planetarium presentation of the month's celestial events. Third Friday of every month (except Oct.)

SKYWATCH: Third Friday of every month (weather permitting) on the front lawn.

24-Hour Information: (804) 367-0000

Box Office: (804) 367-1080

24-Hour Skywatch Information: (804) 367-8277

24-Hour TDD Information: (804) 367-9760

General Information - TDD: (804) 367-6552

Group Scheduling: (804) 367-6552

Home Page: <http://www.smv.org>

VIRGINIA AIR AND SPACE CENTER CALENDAR

TRAVELING EXHIBITS:

Hubble Space Telescope Opens Oct. 19

At the Controls: A Look at Cockpits - Opens Oct. 12

IMAX FILMS:

Apollo 13 - thru Nov. 26

Australia - thru Feb. 20, 2003

Space Station - thru Dec. 24

Stars Wars: Episode II Attack of the Clones - Opens Nov. 1

Disney's Treasure Planet - Opens Nov. 27

Disney's The Lion King - Opens Dec. 25

SIGMA SERIES LECTURES:

The Aerodynamics of Animal Flight

Geoffrey Spedding - Nov. 5, 7:30 p.m.

From Kitty Hawk to the Stars

Gentry Lee - Dec. 17, 7:30 p.m.

Call (804) 727-0900 for showtimes

Visit the Center's Home Page:

<http://www.vasc.org>

Visit the Teacher Resource Center Home

Page: <http://seastar.vasc.mus.va.us>

Calendar of Events

March 28-30, 2003

Wright Flight Festival will take place at the Franklin Institute Science Museum in Philadelphia, PA. For more information visit www.fi.edu/wright.

April 2-5, 2003

National Congress on Aviation and Space Education will be held at the Hilton Cincinnati Netherland Plaza Hotel in Cincinnati, Ohio. For more information visit www.capnhq.gov/conference.

May 14-18, 2003

Celebration of Flight will be held at Lumberton Municipal Airport in Lumberton, NC. For more information visit www.celebrationofflightnc.com.

May 16-26, 2003

Festival of Flight will be held in Fayetteville, NC. For more information visit www.festivalofflight.org.

July 3-July 20, 2003

Inventing Flight - Celebration Central at Deeds Point will be held in Dayton, Ohio. For more information visit www.inventingflight.com.

For more events visit: <http://www.doav.state.va.us/calendar.htm>.

Aviation Education Supporters:

VASEF projects are funded by our membership fees and by donations from our member organizations. We would appreciate your support through membership in our organization.

_____ Regular Membership \$25.00 annually (July - Dec. \$12.50)

_____ Non-Profit Organization \$25.00 annually (July - Dec. \$12.50)

_____ Corporate Membership \$100.00 annually (July - Dec. \$50.00)

_____ New Member _____ Renewal

Date: _____

Name: _____

Name of Organization: _____

Occupation: _____

Address: _____

City: _____ State _____ Zip _____

Telephone _____

Please Return to: Tom Tyndall, VASEF Treasurer
5702 Gulfstream Road
Richmond, Virginia 23250-2422



VASEF Aviation Education News
5702 Gulfstream Road
Richmond, Virginia 23250-2422

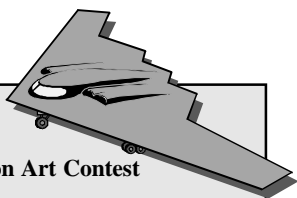
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Inside:

2003 Int'l Aviation Art Contest

Centennial of Flight Curriculum

NASA Educational Programs



Please Post for Teachers